

# Wildlife disease outbreak response

Dolores Gavier-Widén, WOAAH working group on wildlife, SVA Sweden



**Workshop for the National Focal Points of Wildlife. Europe and Central Asia**

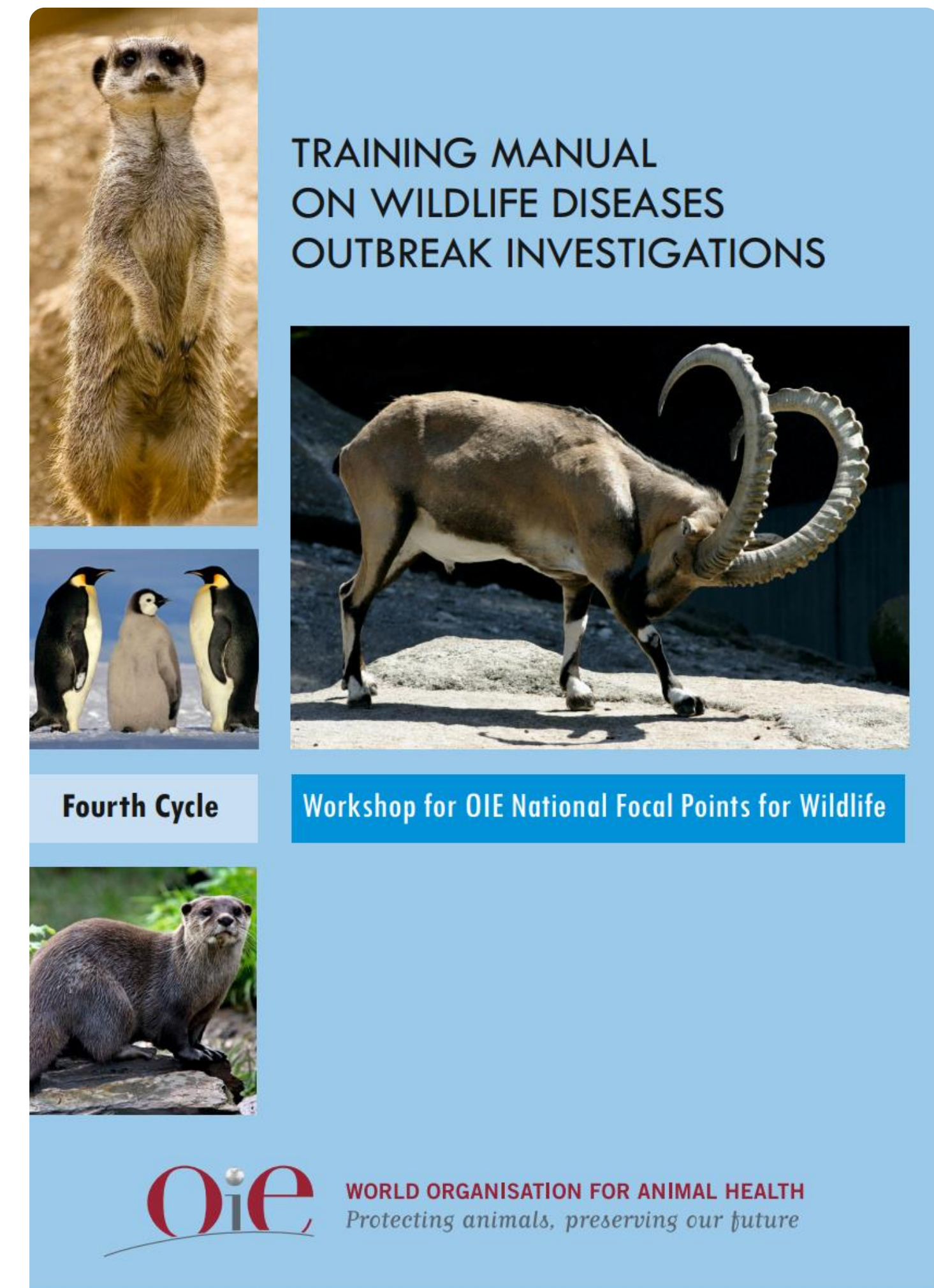
25 – 26 June 2025, Tbilisi, Georgia



# Wildlife disease outbreak investigations in 4<sup>th</sup> cycle manual

**“...to ensure team readiness to respond to an actual outbreak”**

- ✓ Verify that an outbreak is occurring
- ✓ Confirm the diagnosis
- ✓ Establish case definition
- ✓ Descriptive epidemiology
- ✓ Hypothesis generation
- ✓ Analytic epidemiology
- ✓ Preliminary control/prevention measures
- ✓ Communicate findings
- ✓ Establish disease surveillance/monitoring





# Before the outbreak



Photo: Mikael Kristersson

# Emergency preparedness and contingency planning

- ✓ Established chain of command
- ✓ Systems for rapid detection and confirmation
- ✓ Outbreak investigation procedures
- ✓ Rapid containment measures (e.g. movement control, disinfection, vaccination, culling)
- ✓ Communication strategy



Guidelines for Animal Disease Control

[https://www.woah.org/fileadmin/Home/eng/Our\\_scientific\\_expertise/docs/pdf/A\\_Guidelines\\_for\\_Animal\\_Disease\\_Control\\_final.pdf](https://www.woah.org/fileadmin/Home/eng/Our_scientific_expertise/docs/pdf/A_Guidelines_for_Animal_Disease_Control_final.pdf)



# Information to the public, awareness

REPUBLIKA SRBIJA / REPUBLIC OF SERBIA / REPUBLICA SERBIA

MINISTARSTVO POLJOPRIVREDE, ŠUMARSTVA I VODOPRIVREDE - UPRAVA ZA VETERINU

MINISTRY OF AGRICULTURE, FORESTRY AND WATER MANAGMENT - VETERINARY DIRECTORATE

MINISTERUL AGRICULTURII, SILVICULTURII ŞI MANAGEMENTUL APELOR - DIRECŢIA VETERINARĂ

AFRIČKA KUGA SVINJA / AFRICAN SWINE FEVER / PESTA PORCINĂ AFRICANĂ

UPOZORENJE

• AFRIČKA KUGA SVINJA JE VEOMA OPASNA ZARAZNA BOLEST SVINJA KOJU IZAZIVA VIRUS

• OBOLJEVAJU SVINJE SVIH KATEGORIJA

• UGINU SVE OBOLELE ŽIVOTINJE

• VIRUS AFRIČKE KUGE SVINJA NE PREDSTAVLJA OPASNOST ZA LJUDE I DRUGE VRSTE ŽIVOTINJA

• NEMA LEČENJA

• NEMA VAKCINE

WARNING

• AFRICAN SWINE FEVER IS VERY CONTAGIOUS VIRAL DISEASE OF SWINE

• IT IS DANGEROUS FOR ALL PIGS CATEGORIES

• MORTALITY IS VERY HIGH

• VIRUS OF AFRICAN SWINE FEVER DOES NOT PRESENT DANGER FOR PEOPLE AND OTHER TYPES OF ANIMAL

• NO TREATMENT

• NO VACCINE

ZABRANJENO / FORBIDEN / ESTE INTERZIS

NO PORK MEAT AND PORK MEAT PRODUCTS AND HUNTING TROPHIES OF WILD PIGS

MANDATORY

• CUSTOMIZE ANY QUANTITY OF PORK MEAT AND PORK MEAT PRODUCTS

• PORK MEAT AND PORK MEAT PRODUCTS CAN NOT BE IMPORTED IN REPUBLIC OF SERBIA

• ALL THE QUANTITY OF PORK MEAT AND PORK MEAT PRODUCTS MUST BE THROWN IN A SPECIAL SIGNED CONTAINER

• TREATMENT CONSERVES ON TEMPERATURE EXCEEDING 80° C CAN BE IMPORTED

• HUNTING TROPHIES OF WILD PIGS CAN NOT BE IMPORTED IN REPUBLIC OF SERBIA

October 2017

African Swine Fever

African swine fever in wild boar and African wild suids

ASF - STOP

1. Introduction

African swine fever (ASF) is a contagious\* hemorrhagic\* disease of suids\*. \*Exotic\* in many

Contents

1 - Introduction

CONTROL OF AFRICAN SWINE FEVER IN THE EU

The key role of hunters

African swine fever (ASF) is a devastating, usually deadly, infectious disease of pigs and wild boar for which no vaccine exists.

The **consequences** of the disease affect:

1. Farms and the economy:

• the virus kills animals.

• economic losses for EU farmers are aggravated by disruption of international trade of animals and meat.

• economic losses for the hunters.

2. Wildlife and hunting:

• because of the disease wild boar populations can decrease significantly or even disappear.

• hunting may be restricted or even banned in some infected areas (including collection of carcasses and trophies).

The pig sector is one of the most economically significant farming sectors in the EU.

It represents 8.5% of the total output of the EU agricultural industry, the highest when compared to other meat sectors.

Pigmeat accounts for 50% of total EU meat production.

Pigmeat is the most exported of all meat produced in the EU: it represents 62% of EU total meat exports.

animauxderente.ch

Le portail d'information pour les détenteurs

Peste porcine

Peste porcine classique (PPC) et peste porcine africaine (PPA)

Un nombre anormalement élevé de porcs malades, qui entraînent une fièvre résistante au traitement, et des morts fréquentes sont des indices de peste porcine. La peste porcine classique et la peste porcine africaine déciment les élevages et causent des pertes économiques importantes aux éleveurs. Une détection précoce de la maladie est décisive pour empêcher qu'elle ne se propage à grande échelle.

Source : Friedrich-Loeffler-Institut FLI, Greifswald – Ile de Riems, Allemagne

Que faire ?

Les trois principaux piliers pour enrayer la PPC et la PPA:

1. La prévention

2. La surveillance et la détection précoce

3. La lutte

1. Prévention

Le risque d'introduire la maladie dans son exploitation peut être fortement réduit en mettant en œuvre de bonnes mesures d'hygiène et de biosécurité. Il est important de respecter strictement l'interdiction de donner des déchets alimentaires comme aliments à ses porcs. Si ces derniers sont détenus en plein air, il faut installer des panneaux signalant cette interdiction. Il faut empêcher autant que possible les contacts entre les porcs domestiques et les sangliers.

2. Surveillance et détection précoce

Les porcs domestiques suspectés de la maladie doivent faire l'objet d'un dépistage de la peste porcine par des analyses de laboratoire. La population de sangliers doit elle aussi être surveillée.

Examen d'exclusion

Pour la peste porcine, le principe «deux analyses valent mieux qu'une» s'applique. Il est préférable de faire analyser un échantillon de sang ou d'organe une fois de trop que pas assez. Depuis 2011, si des porcs d'une exploitation présentent, pour une raison inconnue, des symptômes similaires à ceux de la peste porcine, sans qu'il y ait une forte suspicion, il y a la possibilité d'effectuer un examen d'exclusion de la maladie. Après un contact téléphonique préalable, les vétérinaires et les instituts de pathologie peuvent demander, à l'Institut de virologie et d'immunologie (IVI) à Mittelhäusern, d'effectuer l'examen permettant d'exclure rapidement et simplement une infection de PPA ou de PPC sans devoir placer l'exploitation sous séquestre. Les coûts de l'examen d'exclusion sont pris en charge par la Confédération.

Prévention

• Une bonne hygiène sur l'exploitation et des mesures de biosécurité élevées (lutte contre les rongeurs, sas de désinfection, mesures d'hygiène à respecter par les visiteurs, etc.)

• Avoir le contrôle des mouvements d'animaux

• Ne pas affourager des déchets alimentaires, notamment de la viande, à ses porcs

• Empêcher les contacts entre les porcs et les sangliers

• Eliminer les arrière-faix et les cadavres d'animaux sans tarder et dans les règles de l'art (dans un centre d'élimination des cadavres d'animaux)

• Annoncer à son vétérinaire tous les symptômes inhabituels

Que faire en cas d'apparition de symptômes similaires à ceux de la peste porcine dans une exploitation ?

Si plusieurs animaux de l'exploitation présentent les symptômes susmentionnés, il faut en informer sans tarder son vétérinaire, afin qu'il puisse exclure une suspicion ou demander des analyses de laboratoire. En cas de suspicion, le vétérinaire doit informer immédiatement le Service vétérinaire cantonal.

Il est préférable de faire analyser un échantillon de sang ou d'organe une fois de trop que pas assez !

La découverte de sangliers morts peut être un premier signe d'infection de peste porcine chez cette espèce. Une telle découverte doit donc être annoncée au garde-chasse ou au Service vétérinaire cantonal.

Vous trouverez davantage d'informations sur le site : [www.osav.admin.ch](http://www.osav.admin.ch)

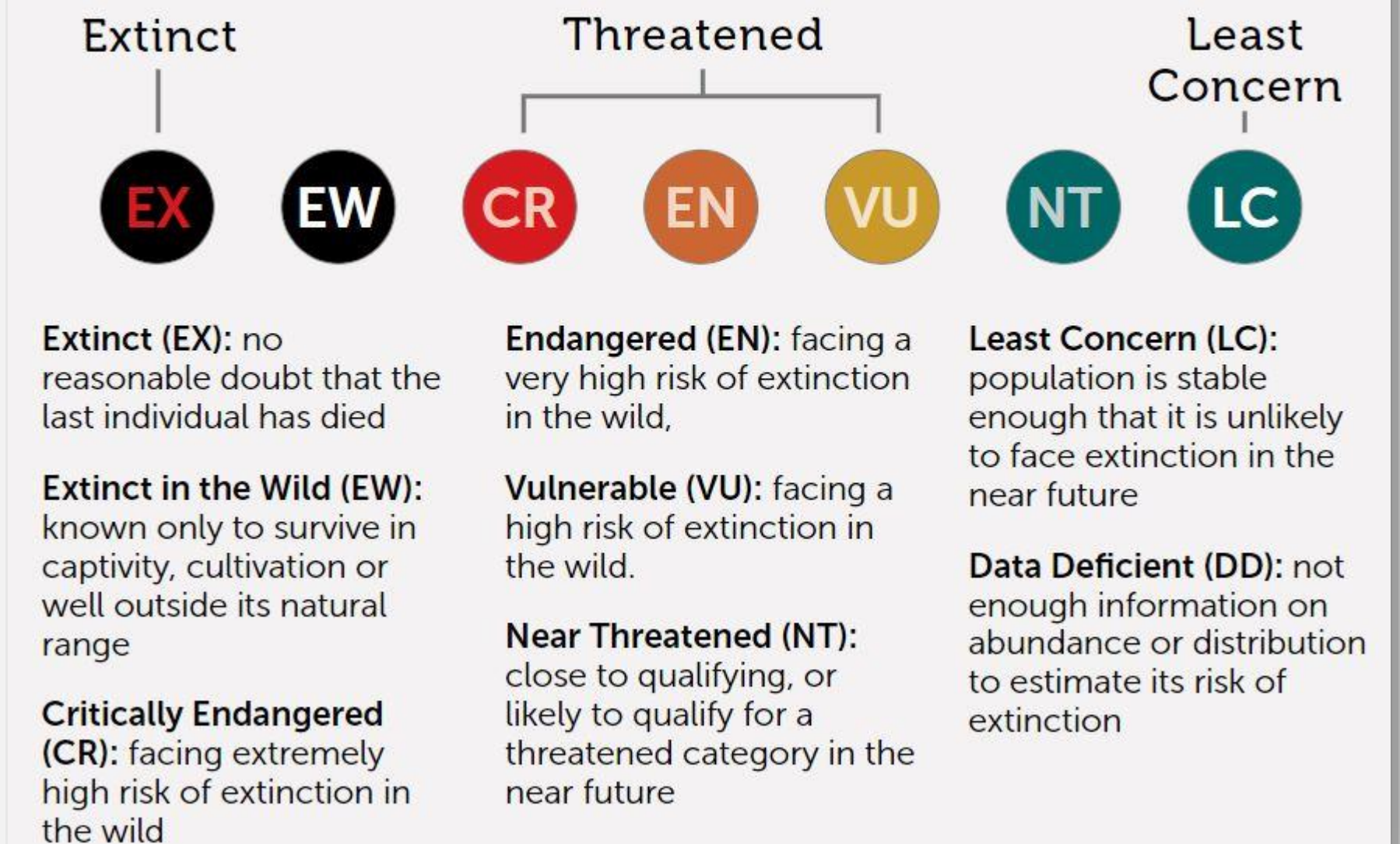


# Information to the public: **protect the wildlife!**



- Preserving functioning ecosystems with predominantly native species.
- Ecological balance, ecosystem services
- Conservation
- Ethical considerations

## THE RED LIST CATEGORIES





# Outbreak response, public perception and conservation issues: bats

- 1,200 bat species throughout the world
- 53 different bats in Europe
- Keystone species= essential for ecosystems
- Majority of bats are insectivorous, significant role in controlling insect populations. Bats contribute up to 50 billion USD annually to the USA agricultural economy through their part in insect control
- About one third of all bat species are fruit or nectar feeding, pollinate numerous plants and disperse seeds
- Threats of SARS-CoV-2 to bats! (public perception)

Serotine bat (*Eptesicus serotinus*), maintenance of EBLV1



<https://batslife.eu/item/%D0%B5ptesicus-serotinus/>



# WOAH Emergency preparedness



## WOAH standards and guidelines relevant to emergency preparedness

Specific standards and recommendations on contingency planning are available in [Chapter 4.6. of the \*Aquatic Code\*](#).

In the *Terrestrial Code*, Article 4.19.3. of [Chapter 4.19. on official control programmes for emerging and listed diseases](#) provides the transversal international standards for emergency preparedness.

Other horizontal chapters, listed below, also refer to this subject:

- Article 3.2.7. of [Chapter 3.2. on the quality of Veterinary Services](#) states that Veterinary Services should 'be prepared to respond effectively to sanitary emergencies'. Point 4 refers to 'emergency management, including preparedness and response planning, a legal framework, and access to the human, physical and financial resources to respond rapidly to sanitary emergencies in a well-coordinated manner'.
- Article 1.4.5. of [Chapter 1.4. on surveillance](#) covers early warning systems.
- Chapters 1.7. to 1.12. in [Section 1](#) require Members that submit a dossier for official status recognition to annex their contingency plan and share any information related to simulation exercises.

Some disease-specific chapters also explicitly require contingency plans (e.g. [Chapter 8.8. on foot and mouth disease](#)).

The [Guidelines for Simulation Exercises](#) were developed in 2020 to provide more guidance for WOAH Members to prepare, deliver and learn from exercises.



# Legal/regulatory framework for contingency planning and outbreak response



- National legislation
- WOAHA
- EU-AHL (Animal Health Law)
- International agreements and commitments: IUCN, CMS, etc



<https://www.cms.int/>



## The EU animal health law

### SUMMARY OF:

Regulation (EU) 2016/429 on transmissible animal diseases

### WHAT IS THE AIM OF THE REGULATION?

- It aims to prevent and control animal diseases that can be transmitted to other animals or humans.
- The animal health law is part of a [package of measures](#) proposed by the [European Commission](#) in May 2013 to strengthen the enforcement of health and safety standards for the entire agri-food chain.

### KEY POINTS

This comprehensive regulation supports the [European Union](#) (EU) livestock and food production sectors and the related EU market in terms of sustainability, competitiveness, growth and jobs. It replaces and extends existing EU rules on animal health, bringing most of them together into one simpler law with a better focus on the key priorities in tackling disease. These priorities include:

- **clearer responsibilities** for farmers (livestock, fish and shellfish farms) and other people involved (e.g. vets) regarding early detection in order to prevent major disease outbreaks or prevent diseases from spreading to limit their damage;
- **simplified administration** for international trade in certain live animals and animal products (such as semen, ova and embryos);
- a **clearer legal basis** and **better tools** for veterinary authorities to fight potentially devastating transmissible diseases, particularly for surveillance, diagnosis and notification;
- **more flexibility** to adjust rules to local circumstances and emerging issues such as climate and social change;
- **reducing adverse effects** on animal and human health and the environment.

It sets out requirements for:

- **disease prevention** and **preparation for possible outbreaks** (e.g. biosecurity\* measures) such as the use of diagnostic tools, vaccination and medical treatments;
- the **identification and registration** of animals and certain animal products (e.g. semen, ova, embryos) and the certification and tracing of their consignments;
- the **entry** of animals and animal products into the EU and their movement within the EU;
- **disease control and eradication**, including emergency measures such as restrictions on the movement of animals, culling and vaccination.

The rules cover animal diseases in all kept animals (including pets in some cases), wild animals and animal products, both terrestrial and aquatic. They do not directly cover [animal welfare](#), although the link between the health of the animals and their welfare is recognised and taken into account when considering the impact of disease.

The EU animal health law is supplemented by the following:

- traceability and animal health requirements for non-EU countries and for certain kept terrestrial animals, and

# EU Animal Health Law (AHL): contingency plans and wild animals

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**“Prevention measures should always be in place, ready to act against diseases when they occur”**



# EU Animal Health Law: wild animals



## Section 5 Wild animals

### Article 70

#### Wild animals

1. Where the competent authority of an affected Member State suspects or officially confirms the presence of a listed disease as referred to in point (a) of Article 9(1) in wild animals, it shall:

(a) conduct, where relevant for that particular listed disease, surveillance in the wild animal population;

(b) take the necessary disease prevention and control measures.

2. The disease prevention and control measures provided for in point (b) of paragraph 1 of this Article may include one or more of the measures laid down in Article 53 to 69 and shall take into account the disease profile and the affected wild animals and the risk of transmission of diseases to animals and humans.

3. The Commission shall be empowered to adopt delegated acts in accordance with Article 264 concerning:

(a) criteria and procedures for surveillance pursuant to point (a) of paragraph 1 of this Article in the case of official confirmation of a listed disease as referred to in point (a) of Article 9(1), in accordance with Article 27;

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#### ▼B

(b) detailed rules supplementing the disease prevention and control measures to be taken pursuant to point (b) of paragraph 1 of this Article in the case of official confirmation of a listed disease as referred to in point (a) of Article 9(1).



# EU-AHL DISEASE AWARENESS, PREPAREDNESS AND CONTROL

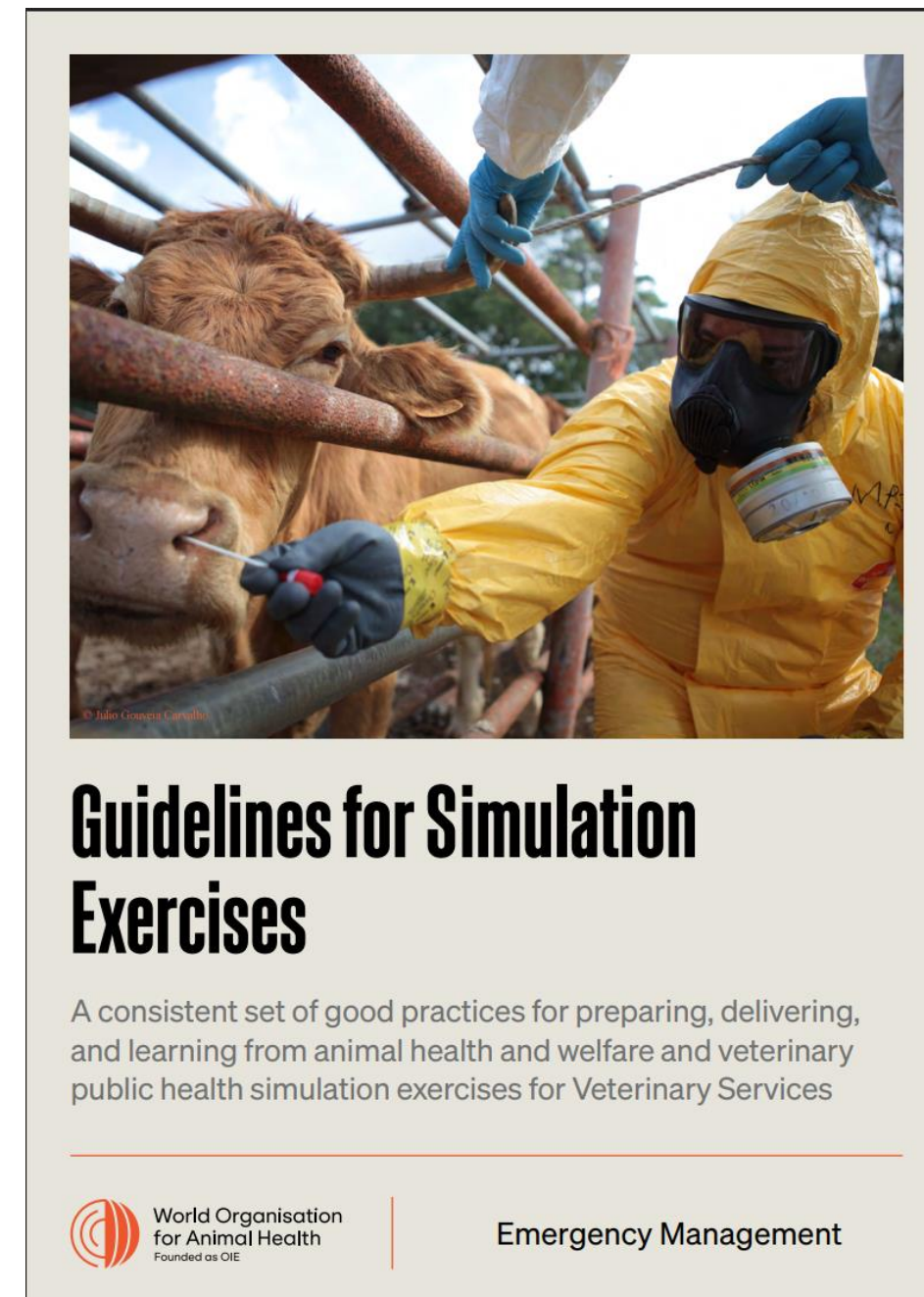
## Ability to launch a rapid response

### Contingency plan

- ✓ Chain of command, framework for cooperation
- ✓ Facilities, laboratories, equipment, personnel, emergency funds, other all other appropriate materials and resources necessary for the rapid and efficient eradication
- ✓ Disease control centres and expert groups
- ✓ Disease control measures, emergency vaccination,
- ✓ Demarcation of restricted zones
- ✓ Coordination with neighbouring Member States and neighbouring third countries and territories

FMD, ASF, CSF, HPAI, AHS,  
emerging diseases

### Simulation exercises (SimEx)



## Instructions manuals



# Outbreak!!!



Dead elephant seals line a beach in Argentina in fall 2023. Avian influenza has caused the catastrophic die-off of thousands of elephant seals in Argentina, raising concerns for wildlife and cross-species transmission. (Ralph Vanstreels/UC Davis)

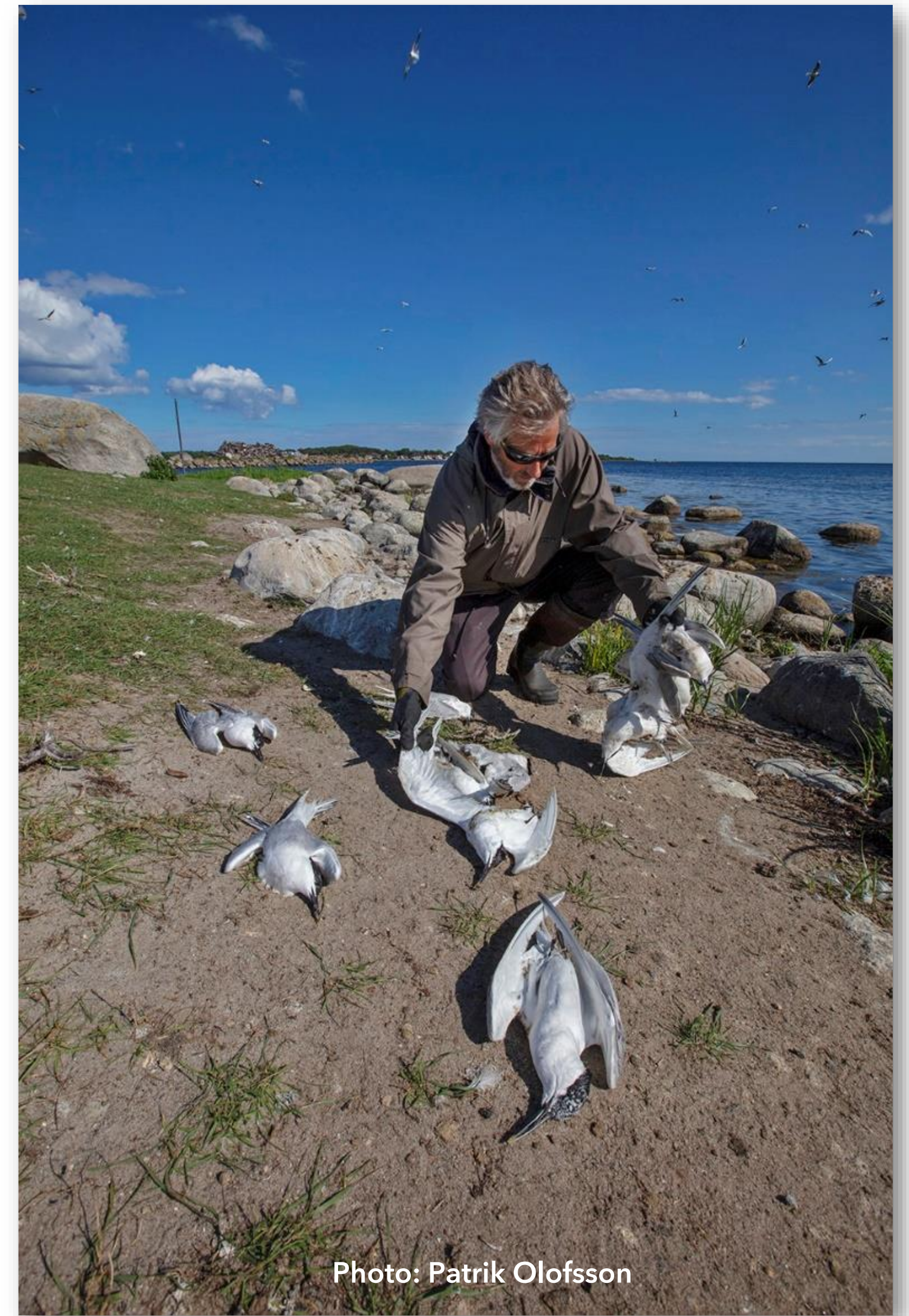


Photo: Patrik Olofsson

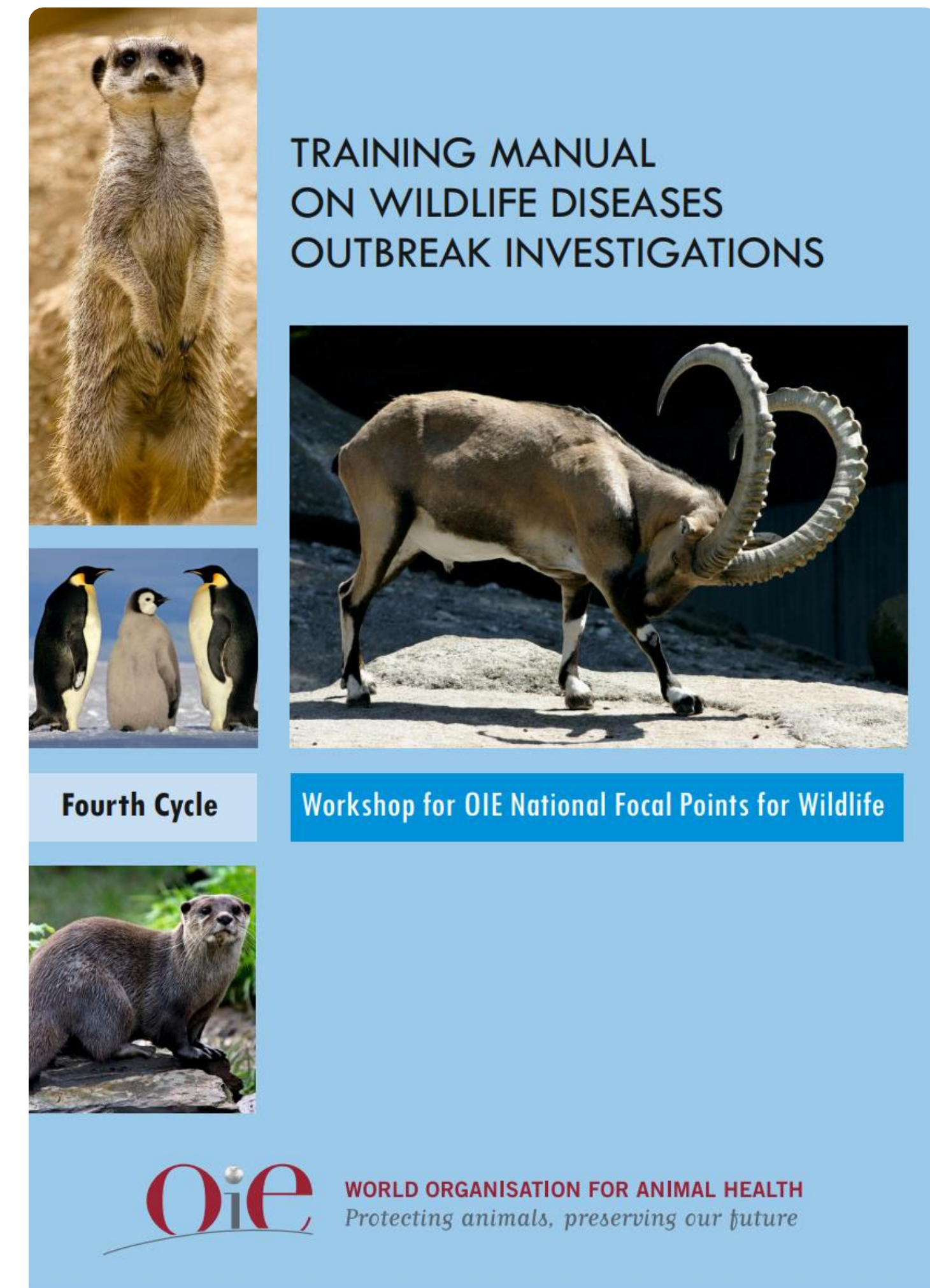
Sandwich terns (*Thalasseus sandvicensis*)



# Wildlife disease outbreak investigations in 4<sup>th</sup> cycle manual

**“...to ensure team readiness to respond to an actual outbreak”**

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# Verify that an outbreak is occurring-real or false alarm?

- Normal mortality?
- Changes in reporting systems?
- Changes in awareness resulting in higher reporting?
- If a pathogen was identified, is it the cause of the mortality?




**Guillemot (*Uria aalge*)**



# Confirm the diagnosis

- Laboratory investigation, identification of pathogen
- WOAAH and NRL and reference laboratories, confirmation
- Chain of communication of results


[Codes and Manuals](#) | [Publications](#) | [Documentary Portal](#) | [Training Platform](#) | [ANIMUSE](#) | [PVGIS](#) | [The Animal Echo](#) | [Bookshop](#) | [EN](#) | [FR](#) | [ES](#)

 World Organisation for Animal Health

[Animal Diseases](#) | [Avian Influenza](#) | [82nd General Session](#) | [SEARCH](#)

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[Home](#) | [What we offer](#) | [Expertise Network](#)



## Expertise Network


In 2024, WOAAH has a global network of 274 Reference Laboratories covering 109 diseases or topics in 40 countries, and 76 Collaborating Centres covering all six main focus areas: almost 36 specialties in 33 countries.

## The expertise network constitutes the core of WOAAH scientific expertise and excellence.

The [WOAH Science System](#) leverages science and uses its scientific network to ensure that its recommendations and technical outputs are based on the latest science, aligned with best practices, and optimised to support WOAAH's missions.

The ongoing contribution of these institutes to the work of WOAAH ensures that the standards, guidelines and recommendations developed by the [Specialist Commissions](#) and published by the WOAAH are scientifically sound and up-to-date.


## The expertise network is integrated by the Reference Centres designated either as:



### Reference Laboratory

The principal mandate of which is to function as a world reference centre of expertise on designated pathogens or diseases.

[Discover](#) →



### Collaborating Centre

The principal mandate of which is to function as a world centre of research, expertise, standardisation of techniques and dissemination of knowledge on a specialty.

[Discover](#) →



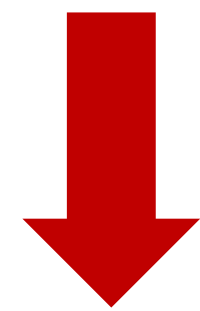
# Establish case definition

1. Population
2. Place
3. Time-frame
4. Geographic distribution/ limits
5. Clinical signs
6. Laboratory confirmation (confirmed, suspected, probable case)



# Descriptive epidemiology

1. Who (what population is affected?)
2. What (infectious cause or something else?)
3. Where (geographic extent of the problem)
4. When (time-frame of the event? Is it still occurring?)



Hypothesis generation

Analytic epidemiology





# Preliminary control/prevention of spread

- ✓ Carcass removal and disposal
- ✓ Protect the live and apparently healthy animals as much as possible
- ✓ Manage movement of wildlife (limit dispersal, hold in an area, move them away)
- ✓ Disinfection
- ✓ Insect control
- ✓ Vaccination
- ✓ Access and movement restrictions for people



<https://www.ako-agrar.com/en/wildlife-defence/wild-boar>



# Communicate

- ✓ Pre-established inter-ministerial or interdepartmental collaboration on communication
- ✓ Points of contact (POC) known and easily located
- ✓ Daily communication between any involved agencies
- ✓ Explain the process in place to find answers
- ✓ Build trust and credibility by expressing empathy, caring, competence, expertise, honesty, openness, commitment and dedication

**Be first. Be right. Be credible.**

**BIRGUIDES**  
FIRST FOR BIRD NEWS

[Bird flu kills thousands of Sandwich Terns at North Sea colonies](#)

Thousands of Sandwich Terns and other species have perished in northern France and The Netherlands as this summer's outbreak of avian influenza continues to spread across northern Europe.



**sky news**

Highly pathogenic bird flu killing hundreds of seabirds along Scottish coast

Over 1,000 gannets and hundreds of great skuas have been found dead across Shetland, Orkney and the Western Isles.

**B B C**

**NEWS**

Avian flu hits world's largest gannet colony on Bass Rock



# Establish disease surveillance/monitoring

- ✓ What work will continue into the next phase?
- ✓ How will you monitor for control of disease?
- ✓ How will you setup and design your surveillance plan?
- ✓ What additional tools and resources are needed?



<https://wildlifeobservatory.org/wildlife-monitoring/>



# Acknowledgements



SVAs wildlife team ([www.SVA.se](http://www.SVA.se))



ENETWILD

